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#### THE TEPARY AND ITS CULTURE.

[The information here given has been furnished by G. F. Freeman, plant breeder, Arizona Agricultural Experiment Station, Tucson, Ariz.]

The tepary is a small, hardy bean, native to the southwestern United States and northern Mexico. It was domesticated by the Indians from a wild species (*Phaseolus acutifolius* var. *latifolius*) growing in this region. It is therefore much better adapted to the extreme conditions found in Arizona and New Mexico than the common kidney bean or frijole (*Phaseolus vulgaris*), which has for its native home the more humid tropical regions farther south. The tepary may be distinguished from the bean by its smaller, thinner, smoother, more narrow, and more pointed leaves. The seeds are also smaller and weigh more per bushel. Another difference lies in the length of the stems bearing the first pair of aerial leaves. For teparies these measure only about one-sixth of an inch whereas for beans they will average an inch or more. There are a number of varieties of the tepary, but the white sort, being just as productive and drought resistant as the others and being more pleasing in flavor and appearance, is best adapted for general planting.

There is considerable difference of opinion as to the relative palatability of beans and teparies. Among the Indians and Spaniards, the pink bean is preferred to the tepary, as they say it has a better flavor. These people, however, make the same distinction between the pink bean and the white navy bean, which is shipped in from the East. Teparies should be soaked twelve hours before cooking, during which time they swell to at least twice their original volume and more than double in weight. In this respect they markedly surpass the beans. Well-cooked teparies are light and mealy and have a rich beanlike aroma. Boiled and baked with bacon or mashed and added to soups they form most acceptable and nourishing dishes.

The superiority of the tepary over the bean for planting in the Southwest is exhibited in its greater productivity when grown under similar conditions. These greater yields are due to the ability of the tepary to germinate quickly in the presence of a low moisture content of the soil and hence the better stand of this crop on dry lands. The tepary is also able to withstand protracted seasons of drought without permanent injury and to return to full vigor immediately when rain falls. Beans do not possess this ability to a marked degree. The tepary is inured to the greatest extremes of our summer temperature, and will bloom and set seed during any month from May to November. On the other hand, when the blooming period of beans happens to fall within a season of extreme heat, the buds will, for the most part, drop off without setting pods. For these reasons the tepary is a more sure and dependable crop, often giving fair returns when beans are a total failure.

Two objections to the tepary should be recorded: First, the plants have a tendency to overbear, i. e., to carry ripe pods, green pods, and flowers all at the same time, so that one is tempted to delay harvesting until more of the crop is ripe, which often results in great loss from the shattering of the riper pods. This is especially true of earlier planted crops, and may be largely prevented by later planting. Second, the ripe and nearly ripe beans are quickly discolored and rendered unsalable by exposure to rains or long-continued moist weather, so that in some localities the crop as it comes from the field contains so many injured beans as to require expensive cleaning and hand picking in order to make a salable sample. A wise timing of the planting in order to avoid both dangers is therefore important. In this connection it must be remembered that teparies will mature in a materially shorter time than white, marrow, or even pea beans.

The general principles of culture applying to beans will apply to the tepary also. The ground should be thoroughly prepared and level. Do not plant until there is moisture in the soil sufficient to bring up the seed. Use a planter, and put the seed down to moisture even if it is necessary to go 4 or 5 inches deep. Where planted deep, do not allow a crust to form above the seeds before they come up. Prevent this by the frequent and thorough use of the harrow. When planted by hand, open the furrow, drop the seeds and cover them before the surface of the soil dries out in the least. Neglect of this often makes the difference between success and failure in securing a stand. Teparies may be planted at any time in the spring after the soil becomes thoroughly warm. The best season for planting in southern Arizona and California is from July 10 to July 20. About 12 pounds of seed per acre should be used. Two seeds to the hill every 9 inches or else 4 seeds every 18 inches should give a sufficient stand. Cultivate lightly after every shower or irrigation in order to conserve the moisture and kill the weeds. Harvest and thrash in the same manner as for beans. A bean huller is much preferred as it gives cleaner seed with a smaller percentage broken.



